L6: Entry 5 of 15 File: PGPB Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020081694
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020081694 A1

TITLE: Alpha 1-6 fucosyltransferase

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taniguchi, Naoyuki	Toyonaka-shi		JP	
Uozumi, Naofumi	Kobe-shi		JP	
Shiba, Tetsuo	Toyonaka-shi		JP	
Yanagidani, Shusaku	Ohtsu-shi		JP	

APPL-NO: 09/ 839136 [PALM]
DATE FILED: April 23, 2001

RELATED-US-APPL-DATA:
Application 09/839136 is a division-of US application 09/442629, filed November 18, 1999, UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	10365/1996	1996JP-10365/1996	January 24, 1996
JP	161648/1996	1996JP-161648/1996	June 21, 1996
JP	162813/1996	1996JP-162813/1996	June 24, 1996
JP	192260/1996	1996JP-192260/1996	July 22, 1996

INT-CL: [07] C12 P 19/04, C12 N 9/10, C12 P 21/02, C12 N 5/06

US-CL-PUBLISHED: 435/193; 435/69.1, 435/325, 435/320.1, 435/101
US-CL-CURRENT: 435/193; 435/101, 435/320.1, 435/325, 435/69.1

REPRESENTATIVE-FIGURES: NONE

ABSTRACT:

Alpha-1-6 fucosyltransferases with a human or swine origin which have the following function; genes encoding these enzymes; expression vectors containing these genes; transformants prepared by using these expression vectors; and a process for producing a recombinant .+-.1-6 fucosyltransferase by incubating such a transformant. Function transferring fucose from guanosine diphosphate to the hydroxyl group at the 6-position of GluNAc closest to R in the receptor (GluNAc.sup.21-2Man.+-.1-6)-(GlcNAc.sup.21-2Man.+-.1-3)Man.sup.21-4GlcNAc- .sup.21-

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Search Results - Record(s) 1 through 10 of 15 returned.

☐ 1. Document ID: US 20040093621 A1

Using default format because multiple data bases are involved.

L6: Entry 1 of 15 File: PGPB May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040093621
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040093621 A1

TITLE: Antibody composition which specifically binds to CD20

PUBLICATION-DATE: May 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Shitara, Kenya	Tokyo		JP	
Sakurada, Mikiko	Tokyo		JP	
Uchida, Kazuhisa	Tokyo		JP	
Shinkawa, Toyohide	Tokyo		JP	
Satoh, Mitsuo	Tokyo		JP	
Nakano, Ryosuke	Tokyo		JP	

US-CL-CURRENT: 800/6; 435/334

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De

☐ 2. Document ID: US 20040057958 A1

L6: Entry 2 of 15 File: PGPB Mar 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040057958
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040057958 A1

TITLE: Immunogenicity-enhancing carriers and compositions thereof and methods of using the same

PUBLICATION-DATE: March 25, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Waggoner, David W. JR.	Seattle	WA	US	

Coon, Michael E. Seattle WA US

US-CL-CURRENT: 424/184.1; 514/54, 530/403

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 3. Document ID: US 20030203427 A1

L6: Entry 3 of 15 File: PGPB Oct 30, 2003

PGPUB-DOCUMENT-NUMBER: 20030203427
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030203427 A1

TITLE: Alpha1-3 galactosyltransferase gene and promoter

PUBLICATION-DATE: October 30, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Koike, Chihiro	Pittsburgh	PA	US	

US-CL-CURRENT: 435/69.1; 435/193, 435/320.1, 435/325, 435/366, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 4. Document ID: US 20030115614 A1

L6: Entry 4 of 15 File: PGPB Jun 19, 2003

PGPUB-DOCUMENT-NUMBER: 20030115614
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030115614 A1

TITLE: Antibody composition-producing cell

PUBLICATION-DATE: June 19, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kanda, Yutaka	Tokyo		JP	
Satoh, Mitsuo	Tokyo		JP	
Nakamura, Kazuyasu	Tokyo		JP	
Uchida, Kazuhisa	Tokyo		JP	
Shinkawa, Toyohide	Tokyo		JP	
Yamane, Naoko	Tokyo		JP	
Hosaka, Emi	Tokyo		JP	
Yamano, Kazuya	Tokyo		JP	
Yamasaki, Motoo	Tokyo		JP	

Hanai, Nobuo Tokyo JP

US-CL-CURRENT: 800/6; 435/326, 435/358

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 5. Document ID: US 20020081694 A1

L6: Entry 5 of 15 File: PGPB Jun 27, 2002

PGPUB-DOCUMENT-NUMBER: 20020081694
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020081694 A1

TITLE: Alpha 1-6 fucosyltransferase

PUBLICATION-DATE: June 27, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Taniguchi, Naoyuki	Toyonaka-shi		JP	
Uozumi, Naofumi	Kobe-shi		JP	
Shiba, Tetsuo	Toyonaka-shi		JP	
Yanagidani, Shusaku	Ohtsu-shi		JP	

US-CL-CURRENT: 435/193; 435/101, 435/320.1, 435/325, 435/69.1

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

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☐ 6. Document ID: US 6331658 B1

L6: Entry 6 of 15 File: USPT Dec 18, 2001

US-PAT-NO: 6331658
DOCUMENT-IDENTIFIER: US 6331658 B1

TITLE: Genetically engineered mammals for use as organ donors

DATE-ISSUED: December 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cooper; David K. C.	Oklahoma City	OK		
Koren; Eugen	Oklahoma City	OK		

US-CL-CURRENT: 800/14; 435/320.1, 435/325, 435/455, 435/69.1, 800/17, 800/21, 800/22, 800/25, 800/3, 800/8, 800/9

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw De

☐ 7. Document ID: US 6291219 B1

L6: Entry 7 of 15 File: USPT Sep 18, 2001

US-PAT-NO: 6291219
DOCUMENT-IDENTIFIER: US 6291219 B1

TITLE: .alpha.1-6 fucosyltransferase

DATE-ISSUED: September 18, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Taniguchi; Naoyuki	Toyonaka			JP
Uozumi; Naofumi	Kobe			JP
Shiba; Tetsuo	Toyonaka			JP
Yanagidani; Shusaku	Ohtsu			JP

US-CL-CURRENT: 435/193; 435/183, 435/252.3, 435/320.1, 435/69.1, 536/23.1, 536/23.2

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

☐ 8. Document ID: US 6204431 B1

L6: Entry 8 of 15 File: USPT Mar 20, 2001

US-PAT-NO: 6204431
DOCUMENT-IDENTIFIER: US 6204431 B1

TITLE: Transgenic non-human mammals expressing heterologous glycosyltransferase DNA sequences produce oligosaccharides and glycoproteins in their milk

DATE-ISSUED: March 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Prieto; Pedro A.	West Worthington	OH		
Kopchick; John J.	Athens	OH		
Cummings; Richard D.	Edmond	OK		
Pierce; James M.	Athens	GA		
Smith; David F.	Athens	GA		
Moremen; Kelley W.	Athens	GA		

US-CL-CURRENT: 800/14; 800/15, 800/16, 800/17, 800/18, 800/25, 800/4, 800/6

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWMC | Draw De

☐ 9. Document ID: US 6166288 A

L6: Entry 9 of 15 File: USPT Dec 26, 2000

US-PAT-NO: 6166288
DOCUMENT-IDENTIFIER: US 6166288 A

TITLE: Method of producing transgenic animals for xenotransplantation expressing both an enzyme masking or reducing the level of the gal epitope and a complement inhibitor

DATE-ISSUED: December 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Diamond; Lisa E.	Princeton	NJ		
Logan; John S.	Robbinsville	NJ		
Byrne; Geurard W.	Allentown	NJ		
Sharma; Ajay	Lawrenceville	NJ		

US-CL-CURRENT: 800/17; 800/21, 800/22, 800/25, 800/3

Full | Title | Citation | Front | Review | Classification | Date | Reference | ... | Claims | KWMC | Draw De

☐ 10. Document ID: US 6054304 A

L6: Entry 10 of 15 File: USPT Apr 25, 2000

US-PAT-NO: 6054304
DOCUMENT-IDENTIFIER: US 6054304 A
**** See image for Certificate of Correction ****

TITLE: .alpha.1-6 fucosyltransferase

DATE-ISSUED: April 25, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Taniguchi; Naoyuki	Toyonaka			JP
Uozumi; Naofumi	Kobe			JP
Shiba; Tetsuo	Toyonaka			JP
Yanagidani; Shusaku	Ohtsu			JP

US-CL-CURRENT: 435/193; 435/252.3, 435/254.11, 435/366, 530/412

Full | Title | Citation | Front | Review | Classification | Date | Reference | ... | Claims | KWMC | Draw De

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DATE: Thursday, September 16, 2004

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☐	L6	human with fucosyltransferase.clm.	15
☐	L5	human fucosyltransferase.clm.	0
☐	L4	human fucosyltransferase with dna	4
☐	L3	fucosyl trasferase with dna	0
☐	L2	fucosyltrasferase with dna	0
☐	L1	human fucosyltrasferase with dna	0

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L2: Entry 1 of 1 File: PGPB Sep 4, 2003

PGPUB-DOCUMENT-NUMBER: 20030165831
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030165831 A1

TITLE: Novel genes, compositions, kits, and methods for identification, assessment, prevention, and therapy of ovarian cancer

PUBLICATION-DATE: September 4, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Lee, John	Somerville	MA	US	
Thompson, Pamela	Stow	MA	US	
Lillie, James	Natick	MA	US	

APPL-NO: 09/ 814353 [PALM]
DATE FILED: March 21, 2001

RELATED-US-APPL-DATA:
Application is a non-provisional-of-provisional application 60/191031, filed March 21, 2000,
Application is a non-provisional-of-provisional application 60/207124, filed May 25, 2000,
Application is a non-provisional-of-provisional application 60/211940, filed June 15, 2000,
Application is a non-provisional-of-provisional application 60/216820, filed July 7, 2000,
Application is a non-provisional-of-provisional application 60/220661, filed July 25, 2000,
Application is a non-provisional-of-provisional application 60/257672, filed December 21, 2000,

INT-CL: [07] C12 Q 1/68, G01 N 33/574, C07 H 21/04, C12 N 9/00, C12 P 21/02, C12 N 5/06, C07 K 16/40

US-CL-PUBLISHED: 435/6; 435/7.23, 435/69.1, 435/320.1, 435/325, 435/183, 530/388.26, 536/23.2
US-CL-CURRENT: 435/6; 435/183, 435/320.1, 435/325, 435/69.1, 435/7.23, 530/388.26, 536/23.2

ABSTRACT:

The invention relates to compositions, kits, and methods for detecting, characterizing, preventing, and treating human ovarian cancers. A variety of novel markers are provided, wherein changes in the levels of expression of one or more of the markers is correlated with the presence of ovarian cancer.

RELATED APPLICATIONS

[0001] The present application claims priority to U.S. provisional patent application serial No. 60/191,031 filed on Mar. 21, 2000, U.S. provisional patent application serial No. 60/207,124, filed on May 25, 2000, U.S. provisional patent application serial no. 60/211,940, filed on Jun. 15, 2000, U.S. provisional patent application serial No. 60/216,820, filed on Jul. 7, 2000, U.S. provisional patent application serial No. 60/220,661, filed on Jul. 25, 2000, and U.S. provisional patent application serial No. 60/257,672, filed on Dec. 21, 2000, all of which are expressly incorporated by reference.

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L1          187 HUMAN FUCOSYLTRANSFERASE

=> dup rem l1
PROCESSING COMPLETED FOR L1
L2          110 DUP REM L1 (77 DUPLICATES REMOVED)

=> s l2 and (dna or rna or nucleic acid or polynucleotide)
   2 FILES SEARCHED...
L3           30 L2 AND (DNA OR RNA OR NUCLEIC ACID OR POLYNUCLEOTIDE)

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L4           30 FOCUS L3 1-

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L5           19 L4 AND 1990-1999/PY

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L5   ANSWER 1 OF 19     MEDLINE on STN
ACCESSION NUMBER:   1999136155     MEDLINE
DOCUMENT NUMBER:    PubMed ID: 9949196
TITLE:              Expression of human alpha-1-fucosyltransferase gene
                    homologs in monkey kidney COS cells and modification of
                    potential fucosyltransferase acceptor substrates by an
                    endogenous glycosidase.
AUTHOR:             Clarke J L; Watkins W M
CORPORATE SOURCE:   Department of Haematology, Imperial College School of
                    Medicine, Hammersmith Hospital, London W12 ONN, UK.
SOURCE:             Glycobiology, (1999 Feb) 9 (2) 191-202.
                    Journal code: 9104124. ISSN: 0959-6658.
```

PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199903
ENTRY DATE: Entered STN: 19990326
Last Updated on STN: 19990326
Entered Medline: 19990312

AB Previous investigations on the monkey kidney COS cell line demonstrated the weak expression of fucosylated cell surface antigens and presence of endogenous fucosyltransferase activities in cell extracts. RT-PCR analyses have now revealed expression of five homologs of **human fucosyltransferase** genes, FUT1, FUT4, FUT5, FUT7, and FUT8, in COS cell mRNA. The enzyme in COS cell extracts acting on unsialylated Type 2 structures is closely similar in its properties to the alpha1,3-fucosyltransferase encoded by human FUT4 gene and does not resemble the product of the FUT5 gene. Although FUT1 is expressed in the COS cell mRNA, it has not been possible to demonstrate alpha1,2-fucosyltransferase activity in cell extracts but the presence of Le(y) and blood-group A antigenic determinants on the cell surface imply the formation of H-precursor structures at some stage. The most strongly expressed fucosyltransferase in the COS cells is the alpha1,6-enzyme transferring fucose to the innermost N -acetylglucosamine unit in N -glycan chains; this enzyme is similar in its properties to the product of the human FUT8 gene. The enzymes resembling the human FUT4 and FUT8 gene products both had pH optima of 7.0 and were resistant to 10 mM NEM. The incorporation of fucose into asialo-fetuin was optimal at 5.5 and was inhibited by 10 mM NEM. This result initially suggested the presence of a third fucosyltransferase expressed in the COS cells but we have now shown that triantennary N- glycans with terminal nonreducing galactose units, similar to those present in asialo-fetuin, are modified by a weak endogenous beta-galactosidase in the COS cell extracts and thereby rendered suitable substrates for the alpha1,6-fucosyltransferase.

L5 ANSWER 2 OF 19 MEDLINE on STN
ACCESSION NUMBER: 1998327210 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9662708
TITLE: Molecular characterization of a fucosyltransferase encoded by Schistosoma mansoni.
AUTHOR: Marques E T Jr; Weiss J B; Strand M
CORPORATE SOURCE: Johns Hopkins University School of Medicine, Department of Pharmacology and Molecular Science, Baltimore, MD 21205, USA.. emarques@welchlink.welch.jhu.edu
SOURCE: Molecular and biochemical parasitology, **(1998 Jun 1)** 93 (2) 237-50.
Journal code: 8006324. ISSN: 0166-6851.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF016899
ENTRY MONTH: 199809
ENTRY DATE: Entered STN: 19980925
Last Updated on STN: 19980925
Entered Medline: 19980917

AB The glycans of schistosomes include many complex carbohydrates that contain fucose. Although the biological functions of these complex carbohydrates are not yet clearly understood, some of these structures are thought to play essential roles in the life cycle of the parasite. Here we present the molecular cloning and characterization of a fucosyltransferase of Schistosoma mansoni with a **DNA** sequence similarity of 84.6 and 63.7% to mouse and **human fucosyltransferase** type VII. Southern blot analysis of genomic **DNA** indicated that this S. mansoni fucosyltransferase is the product of a single gene. The schistosome cDNA sequence that we obtained

contains an open reading frame encoding a protein of 351 amino acids with a predicted molecular size of 40.5 kDa. From the amino acid sequence, we predicted two potential N-linked and one O-linked glycosylation site. Western blot studies of extracts from stably transfected CHO cells showed a band corresponding to the schistosome fucosyltransferase at 50 kDa, suggesting that the enzyme is indeed glycosylated. We further demonstrated the expression and enzymatic activity of the fucosyltransferase in the transfected cells by immunofluorescence studies and flow microfluorimetric analysis, which indicated that the enzyme is capable of synthesizing the SLeX blood group determinant but not the LeX determinant in CHO cells. The identification of a fucosyltransferase type VII in schistosomes further underscores the importance of fucose-containing glycans in schistosome glycobiology.

L5 ANSWER 3 OF 19 MEDLINE on STN
ACCESSION NUMBER: 1998308151 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9642161
TITLE: Specific detection of sialyl Lewis X determinant carried on the mucin GlcNAcbeta1-->6GalNAcalpha core structure as a tumor-associated antigen.
AUTHOR: Kumamoto K; Mitsuoka C; Izawa M; Kimura N; Otsubo N; Ishida H; Kiso M; Yamada T; Hirohashi S; Kannagi R
CORPORATE SOURCE: Program of Experimental Pathology, Aichi Cancer Center, Nagoya, 464-8681, Japan.
SOURCE: Biochemical and biophysical research communications, **(1998 Jun 18)** 247 (2) 514-7.
Journal code: 0372516. ISSN: 0006-291X.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199807
ENTRY DATE: Entered STN: 19980731
Last Updated on STN: 19980731
Entered Medline: 19980720

AB Sialyl Lewis X serves as a ligand for selectins and is proposed to be implicated in hematogenous metastasis of cancers. When a cultured human breast cancer cell line, MCF-7, which does not express sialyl Lewis X, was transfected with **human fucosyltransferase** VI cDNA, a strong expression of sialyl Lewis X was induced on transfectant cells. The transfectant cells were found to be also reactive to the antibody NCC-ST-439, which was initially raised against human gastric cancer cells and later was shown to recognize a tumor-associated carbohydrate antigen in breast, gastric, and colon cancers. This suggested that the antigen recognized by NCC-ST-439 is closely related to sialyl Lewis X. Subsequent studies indicated that NCC-ST-439 specifically reacts to NeuAcalpha2-->3Galbeta1-->4(Fucalpha1-->3)GlcNAcbet a1-->6GalNAcalpha1 -->R, the sialyl Lewis X on the mucin GlcNAcbeta1-->6 GalNAcalpha structure. The antibody was not reactive to the conventional sialyl Lewis X determinants on straight and/or branched polylactosamine structures including NeuAcalpha2-->3Galbeta1-->4(Fucalpha1-->3)GlcNAcbet a1-->3Galbeta1-->4 Glcbeta1-->R and NeuAcalpha2-->3Galbeta1-->4(Fucalpha1--> 3)GlcNAcbet a1-->6Galbeta1-->4 Glcbeta1-->R. This was in clear contrast to most of the known anti-sialyl Lewis X antibodies, which do not discriminate internal structures carrying the sialyl Lewis X determinant. On the other hand, the newly generated monoclonal antibody GSC154-27 had a specificity completely the reverse of the specificity of NCC-ST-439 in that it was strongly reactive to the conventional sialyl Lewis X determinants in straight and branched polylactosamine structures, while far less reactive to the sialyl Lewis X determinant on the mucin GlcNAcbeta1-->6GalNAcalpha core structure. A set of these two antibodies would be useful in discriminating the molecular species of sialyl Lewis X expressed by malignant cells and in studying their functional significance.

L5 ANSWER 4 OF 19 MEDLINE on STN
ACCESSION NUMBER: 96060179 MEDLINE
DOCUMENT NUMBER: PubMed ID: 8542021
TITLE: Molecular genetics of H, Se, Lewis and other fucosyltransferase genes.
AUTHOR: Mollicone R; Cailleau A; Oriol R
CORPORATE SOURCE: INSERM U178, Universite Paris-Sud, Villejuif, France.
SOURCE: Transfusion clinique et biologique : journal de la Societe francaise de transfusion sanguine, **(1995)** 2 (4) 235-42. Ref: 60
Journal code: 9423846. ISSN: 1246-7820.
PUB. COUNTRY: France
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199602
ENTRY DATE: Entered STN: 19960227
Last Updated on STN: 20030306
Entered Medline: 19960214

AB Seven **human fucosyltransferase** genes have been cloned and registered in the Genome Data Base (GDB) as FUT1 to FUT7. According to their acceptor specificity, two main groups of enzymes can be distinguished. The alpha-2-fucosyltransferases: FUT1 (H) of red cells and vascular endothelium and FUT2 (Se) of exocrine secretions. The alpha-3-fucosyltransferases: FUT3 (Lewis) of exocrine secretions; FUT4 (myeloid) of white cells and brain; FUT5 whose tissue distribution has not been defined as yet; FUT6 (plasma) present in plasma, renal proximal tubules and hepatocytes; FUT7 (leukocyte) found in neutrophils. A high **DNA** sequence homology has been detected among the genes within each of these two groups, while no homology has been detected between the genes of the two groups. Point mutations responsible of inactivating genetic polymorphisms have been found for FUT1, FUT2, FUT3 and FUT6, while FUT4 and FUT7 seem to be genetically monomorphic. FUT4 has been detected in all tissues of 5 to 10 weeks old human embryos suggesting that it may play a role in development. FUT7 is a candidate for the control of the synthesis of the receptors of selectin mediated cell adhesion.

L5 ANSWER 5 OF 19 MEDLINE on STN
ACCESSION NUMBER: 95385376 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7656588
TITLE: Relative positions of two clusters of human alpha-L-fucosyltransferases in 19q (FUT1-FUT2) and 19p (FUT6-FUT3-FUT5) within the microsatellite genetic map of chromosome 19.
AUTHOR: Reguigne-Arnould I; Couillin P; Mollicone R; Faure S; Fletcher A; Kelly R J; Lowe J B; Oriol R
CORPORATE SOURCE: INSERM U.178, Villejuif, France.
SOURCE: Cytogenetics and cell genetics, **(1995)** 71 (2) 158-62.
Journal code: 0367735. ISSN: 0301-0171.
PUB. COUNTRY: Switzerland
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-S79196
ENTRY MONTH: 199510
ENTRY DATE: Entered STN: 19951013
Last Updated on STN: 19960424
Entered Medline: 19951004

AB Five on the seven cloned **human fucosyltransferase** genes have been mapped to two clusters, one on 19q and the other on 19p. Comparative **DNA** sequence analysis showed the Genethon

microsatellite D19S596 lies 2.2 kb downstream of the coding region of FUT1, indicating that the cluster comprising the closely linked FUT1 and FUT2 genes is located 4 cM distal to D19S412 (lod score 13.7) and 9 cM proximal to D19S571 (lod score 11.7). Polymorphic markers of FUT3, FUT5, and FUT6 were used for linkage analysis with 14 Genethon microsatellites in Indonesian families. These three loci constitute a cluster on 19p, located between the Genethon microsatellites D19S216 and D19S567, which are known to be only 1 cM distant from each other. Two cross-overs, one between FUT6 and FUT3 and the other between FUT3 and FUT5, suggest the gene order 19pter-D19S216-FUT6-FUT3-FUT5-D19S567++ +-cen. Comparison of genetic and physical maps suggests that the FUT6-FUT3-FUT5 cluster is located on 19p13.3 and the FUT1-FUT2 cluster on 19q13.3. FUT6, FUT3 and FUT5 genes share more than 85% homology and encode three similar, but distinct alpha(1,3) fucosyltransferases. FUT1 and FUT2 share about 70% homology and encode two distinct alpha(1,2)fucosyltransferases. No sequence homology was found between the genes of the two clusters. The members of each of these two clusters have probably emerged by duplication and divergent evolution of two unrelated ancestor genes.

L5 ANSWER 6 OF 19 MEDLINE on STN
ACCESSION NUMBER: 92156161 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1740457
TITLE: Isolation of a novel human alpha (1,3)fucosyltransferase gene and molecular comparison to the human Lewis blood group alpha (1,3/1,4)fucosyltransferase gene. Syntenic, homologous, nonallelic genes encoding enzymes with distinct acceptor substrate specificities.
AUTHOR: Weston B W; Nair R P; Larsen R D; Lowe J B
CORPORATE SOURCE: Department of Pediatrics, University of Michigan Medical School, Ann Arbor 48109-0650.
CONTRACT NUMBER: DK38482 (NIDDK)
GM14279 (NIGMS)
SOURCE: Journal of biological chemistry, **(1992 Feb 25)** 267 (6) 4152-60.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-L01671; GENBANK-L01672; GENBANK-L01673; GENBANK-L01674; GENBANK-L01675; GENBANK-L01676; GENBANK-L01677; GENBANK-M81485; GENBANK-X59129; GENBANK-X59130
ENTRY MONTH: 199203
ENTRY DATE: Entered STN: 19920410
Last Updated on STN: 20030306
Entered Medline: 19920324

AB Biochemical and genetic evidence indicates that the human genome may encode four or more distinct GDP-fucose:beta-D-N-acetylglucosaminide 3-alpha-L-fucosyltransferase (alpha(1,3)fucosyltransferase) activities. Genes encoding two of these activities have been previously isolated. These correspond to an alpha(1,3/1,4)fucosyltransferase thought to represent the human Lewis blood group locus and an alpha(1,3)fucosyltransferase expressed in the myeloid lineage. We report here the molecular cloning and expression of a third human alpha(1,3)fucosyltransferase gene, homologous to but distinct from the two previously reported **human fucosyltransferase** genes. When expressed in transfected mammalian cells, this gene determines expression of a fucosyltransferase capable of using N-acetyllactosamine to form the Lewis x epitope, and alpha(2,3)sialyl-N-acetyllactosamine to construct the sialyl Lewis x moiety. This enzyme shares 91% amino acid sequence identity with the human Lewis blood group alpha(1,3/1,4)fucosyltransferase, yet exhibits only trace amounts of alpha(1,4)fucosyltransferase activity. Polymerase chain reaction analyses were used to demonstrate that the gene is syntenic to the Lewis locus on

chromosome 19. These analyses also excluded the possibility that this **DNA** segment represents an allele of the Lewis locus that encodes alpha(1,3)fucosyltransferase but not alpha(1,4)fucosyltransferase activity. These results are consistent with the hypothesis that this gene encodes the human "plasma type" alpha(1,3)fucosyltransferase, and suggest a molecular basis for a family of human alpha(1,3)fucosyltransferase genes.

L5 ANSWER 7 OF 19 MEDLINE on STN
ACCESSION NUMBER: 91373370 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1716630
TITLE: Molecular cloning of a **human fucosyltransferase** gene that determines expression of the Lewis x and VIM-2 epitopes but not ELAM-1-dependent cell adhesion.
AUTHOR: Lowe J B; Kukowska-Latallo J F; Nair R P; Larsen R D; Marks R M; Macher B A; Kelly R J; Ernst L K
CORPORATE SOURCE: Howard Hughes Medical Institute, University of Michigan Medical School, Ann Arbor 48109-0650.
CONTRACT NUMBER: CA32826 (NCI)
DK38482 (NIDDK)
SOURCE: Journal of biological chemistry, **(1991 Sep 15)** 266 (26) 17467-77.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-M65030; GENBANK-S53397; GENBANK-S53399; GENBANK-S53401; GENBANK-S53403; GENBANK-S54662; GENBANK-S54667; GENBANK-S56522; GENBANK-S56524; GENBANK-S56650
ENTRY MONTH: 199110
ENTRY DATE: Entered STN: 19911108
Last Updated on STN: 20030306
Entered Medline: 19911021

AB We have used the human Lewis blood group fucosyltransferase cDNA and cross-hybridization procedures to isolate a human gene that encodes a distinct fucosyltransferase. Its **DNA** sequence predicts a type II transmembrane protein whose sequence is identical to 133 of 231 amino acids at corresponding positions within the catalytic domain of the Lewis fucosyltransferase. When expressed by transfection in cultured cell lines, this gene determines expression of a fucosyltransferase capable of efficiently utilizing N-acetyllactosamine to form the Lewis x determinant (Gal beta 1----4[Fuc alpha 1----3]GlcNAc). By contrast, biochemical and flow cytometry analyses suggest that the enzyme cannot efficiently utilize the type II acceptor NeuNAc alpha 2----3Gal beta 1----4GlcNAc, to form the sialyl Lewis x determinant. In Chinese hamster ovary cells, however, the enzyme can determine expression of the alpha 2----3-sialylated, alpha 1----3-fucosylated structure known as VIM-2, a putative oligosaccharide ligand for ELAM-1. Cell adhesion assays using VIM-2-positive, sialyl Lewis x-negative transfected Chinese hamster ovary cells indicate that surface expression of the VIM-2 determinant is not sufficient to confer ELAM-1-dependent adhesive properties upon the cells. These results demonstrate that substantial structural similarities can exist between mammalian glycosyltransferases with closely related enzymatic properties, thus facilitating isolation of their cognate genes by cross-hybridization methods. The results further suggest that cell surface expression of the VIM-2 determinant is not necessarily sufficient to mediate ELAM-1-dependent cell adhesion.

L5 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:592172 HCAPLUS
DOCUMENT NUMBER: 129:298979
TITLE: Changing transcription start sites in H-type

.alpha.(1,2)fucosyltransferase gene (FUT1) during differentiation of the human erythroid lineage

AUTHOR(S): Koda, Yoshiro; Soejima, Mikiko; Kimura, Hiroshi

CORPORATE SOURCE: Division of Human Genetics, Kurume University School of Medicine, Fukuoka, Japan

SOURCE: European Journal of Biochemistry (**1998**), 256(2), 379-387
CODEN: EJBCAI; ISSN: 0014-2956

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Recent studies have suggested that at least three transcription-initiation sites were present in the human H-type .alpha.(1,2)fucosyltransferase gene (FUT1). In the present study, the authors have investigated these transcription start sites of FUT1 in undifferentiated leukemic cells (K562) that have erythroid characteristics, in erythroleukemia cells (HEL), and in bone marrow cells. K562 cells used exclusively exon 1 as the start site. While HEL cells used mainly exon 2 as the start site, the major start site for bone marrow cells was within exon 7. In addn., the authors investigated the transcription start site(s) in vascular endothelial cells (ECV304) as an example of mature cells and found that the start site was predominantly within exon 7. The promoter activities were found in the 5' flanking regions of these three start sites after transfection of constructs with luciferase reporter gene into K562 and HEL cells. These findings suggested that the transcription start sites of FUT1 changed during differentiation of the erythroid lineage and that the tissue-specific and stage-specific expressions of the FUT1 were regulated by three distinct promoters. We also found that the 5' flanking region of exon 2 (intron 1) consisted of repetitive sequences (chromosome 19-specific 37-bp minisatellite repeats, Alu sequence and long terminal repeat) and that the start site of exon 2 was within the long terminal repeat. Thus, these repetitive sequences may play a role in the expression of the FUT1.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:281159 HCAPLUS

DOCUMENT NUMBER: 126:260139

TITLE: Human glycosyltransferase or fucosyltransferase fusion proteins, chimeric genes encoding them, and expression in host cell

INVENTOR(S): Lowe, John B.; Legault, Daniel J.

PATENT ASSIGNEE(S): Regents of the University of Michigan, USA

SOURCE: PCT Int. Appl., 329 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9709421	A1	19970313	WO 1996-US13816	19960906 <--
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM				
US 5770420	A	19980623	US 1995-525058	19950908 <--
AU 9669035	A1	19970327	AU 1996-69035	19960906 <--
PRIORITY APPLN. INFO.:			US 1995-525058	19950908
			WO 1996-US13816	19960906

AB A method for isolating a gene, comprising: (1) isolating a cell possessing a post-translational characteristic of interest, said post-translational characteristic being the presence of a membrane-bound oligosaccharide or polysaccharide of interest on the surface of said cell, the presence of a sol. oligosaccharide or polysaccharide of interest in an ext. of said cell, or the presence of a particularly glycosyltransferase activity in an ext. of said cell; (2) creating a genetic library of either cDNA or genomic **DNA** from the genetic material of said isolated cell; (3) transforming host cells with said genetic library; and (4) screening said transformed host cells for a host cell contg. said post-translational characteristic, thereby obtaining a cell contg. said gene, is disclosed. The method can be used to obtain genes encoding glycosyltransferases. Esp. plasmid vectors for expression of fucosyltransferase fusion proteins are described. Many alternative fucosyltransferase III-fucosyltransferase TVI chimeric genes are included.

L5 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:994888 HCAPLUS
DOCUMENT NUMBER: 124:47632
TITLE: Manufacture and secretion into milk of oligosaccharides and glycoconjugates typical of human milk by mammary gland-specific expression of the human genes for oligosaccharide biosynthetic enzymes
INVENTOR(S): Prieto, Pedro Antonio; Smith, David Fletcher; Cummings, Richard Dale; Kopchik, John Joseph; Mukerji, Pradip; Moremen, Kelley Wilson; Pierce, James Michael
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
WO 9524495	A1	19950914	WO 1995-US967	19950124	<--
W: AU, CA, FI, JP, MX, NL, NZ					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
US 5750176	A	19980512	US 1994-208889	19940309	<--
CA 2184686	AA	19950914	CA 1995-2184686	19950124	<--
AU 9516901	A1	19950925	AU 1995-16901	19950124	<--
AU 697523	B2	19981008			
EP 750673	A1	19970102	EP 1995-908663	19950124	<--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE					
JP 09510094	T2	19971014	JP 1995-523443	19950124	<--

PRIORITY APPLN. INFO.: US 1994-208889 A 19940309
WO 1995-US967 W 19950124

AB Methods for genetic engineering of the milk of a non-human mammal is characterized so that it contains heterologous components produced as the secondary gene products of a heterologous gene integrated into the genome of the transgenic non-human mammal are described. The heterologous gene encodes an enzyme such as a human enzyme selected from the group consisting of glycosyltransferases, phosphorylases, hydroxylases, peptidases and sulfotransferases. Esp. useful in the practice of the invention are human glycosyltransferases. The desired heterologous components include oligosaccharides, glycoconjugates. The oligosaccharides and glycoconjugates may be isolated from the milk of the transgenic mammals and used in the prepn. of pharmaceuticals, diagnostic kits, nutritional products and the like. The whole milk may also be used to formulate nutritional products that provide special advantages. The transgenic milk may also be used in the prodn. of specialized enteral nutritional products. Methods for transforming oocytes and screening preimplantation embryos for the presence of the transforming **DNA** are described. The cloning and expression of a cDNA for a **human**

fucosyltransferase in transgenic mice using the whey acidic protein gene promoter to direct mammary gland-specific expression in mice is demonstrated.

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=> d his

     (FILE 'HOME' ENTERED AT 10:28:21 ON 16 SEP 2004)

     FILE 'MEDLINE, HCAPLUS, BIOSIS, EMBASE, BIOTECHDS, SCISEARCH' ENTERED AT
     10:30:09 ON 16 SEP 2004
L1           187 S HUMAN FUCOSYLTRANSFERASE
L2           110 DUP REM L1 (77 DUPLICATES REMOVED)
L3            30 S L2 AND (DNA OR RNA OR NUCLEIC ACID OR POLYNUCLEOTIDE)
L4            30 FOCUS L3 1-
L5            19 S L4 AND 1990-1999/PY

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                    42.16      42.79

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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